Consequences of unrealistic optimism and pessimism for actual behavior: An experimental evidence

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Abstract— In this study, we performed experiments to investigate the negative consequences of unrealistic optimism and pessimism. We also attempted to extend the theory of unrealistic optimism and pessimism by investigating how past events running contrary to expectations impact unrealistic optimism and pessimism. We made participants play an insurance decision game pertaining to a gamble for two consecutive rounds while inducing unrealistic optimism and pessimism within the context of the game. The results show that, when participants are unrealistically optimistic, they purchase less insurance compared to the control group to protect themselves from the gamble losses and vice versa. Additionally, when the optimists in our study got first-round gamble results that were contrary to their optimistic expectations, their levels of unrealistic optimism reduced in the second round and it led to increased insurance purchase in that round. Likewise, when pessimists got gamble results in the first round that were contrary to their pessimistic expectations, their levels of unrealistic pessimism reduced in the second round and they purchased lesser insurance compared to the first round. Our results show that unrealistic optimism can make individuals take inadequate precautions and unrealistic pessimism can lead to excessive precautions. It also suggests that unrealistic optimism and pessimism can be potentially tackled using interventions that draw on the elements of past experiences.

Index Terms— actual behavior, decision making, insurance, negative consequences, past events, unrealistic optimism, unrealistic pessimism.

1 Introduction

Ever since evidence emerged that individuals do not always conform to the assumptions of rationality, the focus of several research works has been on identifying ways in which individual behavior deviates from this assumption [1], [2]. One such behavior that has been under focus is the tendency of individuals to form expectations about the future. People are not always objective in their expectations about the future [3], [4]. They often predict their future outcomes to be better or worse than what objective standards would suggest. These phenomena have been termed unrealistic optimism [5] and unrealistic pessimism respectively [6].

Over the last three decades, unrealistic optimism has seen a steady stream of interest from researchers [7]. While this increased research focus has illuminated several aspects of unrealistic optimism, a systematic search of the literature reveals three crucial gaps (see Sheppard et al [5], [7]; Shepperd & Howell [8] for review). First, most of the studies in the field have focused on demonstrating unrealistic optimism, testing its boundary conditions, or identifying its causes. Only about 10% of the studies have assessed the consequences of unrealistic optimism Sheppard et al [5]. This limited focus on consequences is surprising because of how important it is for human behavior. Second, of the studies that did assess the consequences of unrealistic optimism, most of them have focused on how unrealistic optimism affects behavioral intentions but not actual behavior [7]. The usefulness of such research is modest because evidence shows that correlation between behavioral intentions and actual behavior is not very strong [9], [10]. Finally, none of the studies that have examined the consequences of unrealistic optimism have used experimental methods [5], [7]. Experiments assume importance because they help in establishing a cause-and-effect relationship between variables [11], [12]. The vast majority of research on the consequences of unrealistic optimism has only used a cross-sectional design. This means there is no strong evidence yet of a causal relationship between unrealistic optimism and its presumed consequences.

In this study, we seek to address these three research gaps by using experiments to assess the consequences of unrealistic optimism for actual behavior. In the process, we also seek to examine the impact of unrealistic pessimism, a phenomenon that has received far less attention than unrealistic optimism [13], [14], [15].

Unrealistic optimism and pessimism both have positive as well as negative consequences for individual behavior [7], [15], [16], [17]. In the present study, we only focus on examining the negative consequences of these two phenomena. Specifically, concerning unrealistic optimism, we examine the tendency for people to not take adequate precautions [5]. For unrealistic pessimism, we investigate the tendency for people to engage in excessive precaution [16].

Concerning the actual behavior, we examine the impact of unrealistic optimism and pessimism on insurance purchase behavior. Several studies over the years have highlighted the importance of insurance for individuals [18], [19], [20]. Insurance protects individuals from the financial consequences of unforeseen events [21]. We wish to examine if unrealistic optimism can result in individuals underinsuring themselves [2], [22] and if unrealistic pessimism can make individuals overinsure themselves [23].

Finally, we seek to contribute to the theory of unrealistic optimism and pessimism by building on a strand of research

arguing that past experiences can play a significant role in subsequent economic decisions [24]. This research on the impact of past experiences has been studied extensively, particularly in the contexts of financial markets and risky decision-making [25], [26], [27]. We build on this research to test the theory that past experiences first impact unrealistic optimism and pessimism of individuals. This in turn will affect their subsequent economic decision-making. Specifically, when unrealistically optimistic individuals experience events contrary to their optimistic expectations, their levels of optimism reduce and they become less risk-seeking in their subsequent decisions. In the same vein, when unrealistically pessimistic individuals experience events contrary to their pessimistic expectations, their levels of pessimism reduce and they become more willing to take risks while making subsequent decisions. In the context of our study, it translates to the hypotheses that optimists will purchase more insurance on experiencing outcomes contrary to their unrealistically optimistic expectations while pessimists will purchase lesser insurance on experiencing outcomes contrary to their unrealistic pessimistic expectations.

To sum up, we aim to test the following hypotheses in our study

H1: Unrealistic optimism may lead to people failing to take adequate precautions and hence lead to underinsurance.

H2: Unrealistic pessimism may lead to people engaging in extreme levels of precautions and hence lead to overinsurance.

H3: On experiencing events contrary to their optimistic expectations, the levels of unrealistic optimism reduce for optimists and they become more cautious in their subsequent decisions. Thus, optimists who purchased less insurance initially will take a higher amount of insurance in their subsequent decisions.

H4: On experiencing events contrary to their pessimistic expectations, the levels of unrealistic pessimism reduce for pessimists and they become less cautious in their subsequent decision. Thus, pessimists who purchased more insurance initially will take lesser insurance in their subsequent decisions.

2 METHOD

2.1 Participants

A total of 125 students from a university in India participated in the study as part of their course requirements. The mean age of the participants (37 Females, 88 Males) was 23.4 years (min = 21, max = 31, SD = 1.63). We calculated the minimum sample size requirements using G*Power [28]. Based on Keller & Gollwitzer [29], who claimed to successfully manipulate unrealistic optimism and pessimism, we assumed an effect size of d = 0.69. We calculated the required sample size to be 34 participants per group to determine the above effect size at 80% power. On completion of the study, participants were debriefed and thanked for their cooperation. The study protocol was approved by the University's Institutional Ethics Committee.

2.2 Procedure

The three-group between experimental design study was hosted on Qualtrics survey software. During the study, we randomly assigned participants to one of the following three groups: optimism, control, and pessimism. The experiment consisted of three phases: an induction session, earnings task, and insurance decision game in that order.

In the induction session, participants first received verbal instructions for the study. Once the instructions were given, participants were allowed to get their doubts clarified after which they gave their written consent.

During the earnings task, participants took a 12 question General Knowledge quiz. The quiz was designed along the lines of Laury et al [30] who had used it in their study to nullify the effects of the found-the-money effect i.e., to reinforce the idea that participants had earned the endowment and did not just receive it for free from the experimenter. Participants were told that if they got 6 or more questions correct, they would earn an endowment of INR 100 otherwise, they would earn INR 50. We set the quiz questions such that most of the participants would earn INR 100. This was done to avoid the confounding effects of knowledge and consequently different endowments.

Once the earnings task was complete, participants played the insurance decision game adapted from Kohn [31]. Participants started with the quiz earnings of INR 100.[1] They were told that they will have to roll a six-faced virtual die. The number that came upon the die roll determined how much money participants would lose from their quiz earnings (see Fig 1 for the die numbers and corresponding loss amounts). For example, if a participant rolled number 2, INR 20 would be deducted from the quiz earnings of INR 100. Before they rolled the die, participants were offered the option of protecting their quiz earnings from the potential loss by purchasing insurance (see Table 1 for the insurance options available to participants). Once the participants made the insurance decision, they rolled the die and saw the results of the die roll. The premiums for the insurance were deducted from their quiz earnings.[2]

To illustrate the game, suppose a participant purchased Policy B, rolled the die, and got number 4 as die roll outcome. Then his earnings balance was calculated as 100 (quiz earnings) – 6.67 (premium for policy B) – 20 (quiz earnings unprotected by insurance). Here the unprotected quiz earning was calculated as INR 60 (loss determined by the die roll outcome 4) - INR 40 (which is insurance coverage provided by policy B). Thus, the participant was left with a balance of INR 73.33 at the end of that round.

Participants played this game for two consecutive rounds wherein, at the end of each round we displayed the balance of quiz earnings left with participants based on the insurance decision they made in that round. We set the game such that at the beginning of round 2, the quiz earnings of participants

[1] All the subjects in our study answered more than 6 questions correctly and earned INR 100

[2] Premiums were set at actuarially fair levels and it was calculated based on the loss probability set at 16.67% for each of the six loss amounts. This was because the six-faced die was unbiased, making the probability associated with each of the loss amounts 1/6.

would get refreshed and they will start with INR 100, irrespective of the balance left with them at the end of round 1. This was done to avoid the impact that different earnings balances left with participants after the first round will have on the insurance decision-making in the second round. Overall, the procedure took about 45 minutes per student. Each participant earned as remuneration the balance of quiz earnings and the payout was determined by randomly selecting their balance from one of the two rounds. On average, each participant earned a total remuneration of INR 90.

The number rolled on die	Loss amount (INR)
	0
	20
	40
	60
	80
	100

Fig. 1: The number rolled on the die and the corresponding loss amount that a participant can incur.

Table 1: Insurance policy options available to participants during the insurance decision game

Policy	Premium (INR)	Coverage (INR)
No insurance	0	0
Policy A	3.33	20
Policy B	6.67	40
Policy C	10.00	60
Policy D	13.33	80
Policy E	16.67	100

2.2.1 Manipulation of unrealistic optimism and pessimism

To induce unrealistic optimism, participants in the optimism group were provided with written instructions that they have received a die which when rolled was more likely to give the number 1 than any other number. Likewise, unrealistic pessimism was induced by informing participants in the pessimism group that they have received a die which when rolled was more likely to give the number 6 than any other number. Participants in the control group were told that they had received an unbiased die.

The manipulation statements were based on the following definitions provided in the literature about unrealistic optimism and pessimism. Unrealistic optimism is defined as the "tendency for people to believe they are less likely to experience negative events relative to others" [5]. Unrealistic pessimism is defined as the "tendency for people to believe they are more likely to experience negative events compared to others" [6]. In our game, the negative events that participants can experience are the various losses listed in Fig 1. Thus, by informing participants that their die was more likely to give the number 1 and number 6, we sought to induce the most optimistic and pessimistic outlook possible in this game which is to incur a loss of INR 0 and 100 respectively.

While the participants of the optimism and pessimism group were told that they had received a biased die, they had in fact received an unbiased die. We informed them that their die was biased to induce unrealistic optimism and pessimism about the die roll outcome. It must be noted that we misinformed participants only about the die roll outcome to induce a false sense of optimism and pessimism. As a result, our use of deception here does not violate any of the concerns raised in the literature (see Bortolotti & Mameli [32], Ortmann & Hertwig [33], Sieber et al [34]). On completion of the study, we debriefed participants about the experimental procedure, explaining how deception was used in the study.

2.2.2 Inducing the effect of past experiences running contrary to expectations

To identify how past experiences running contrary to expectations can impact unrealistic optimism and pessimism, we borrowed the idea from Jaspersen & Aseervatham [35]. At the end of round 1, all the participants in the pessimism group saw the die roll outcome as 1, resulting in a loss of INR 0. Participants in the optimism group saw the die roll outcome as 6, resulting in a loss of INR 100. These die roll outcomes were in contrast to the manipulation statement they received.

We determined the die roll outcome a priori, similar to Jaspersen & Aseervatham [35] because had the die roll outcome been randomly determined for the first round, the loss amounts would have been different for each participant. Consequently, participants would have reacted differently to the different loss amounts they experienced rendering it difficult to test the hypothesis on past experiences. It must be noted that the die roll outcome for the control group was not predetermined. Likewise, the die roll outcomes were not predetermined for any of the three groups in round two.

2.3 Measures

Insurance demanded: We captured this variable using the insurance coverage level selected by the participants from the options provided to them (see Table 1).

Unrealistic optimism and pessimism: We measured unrealistic optimism and pessimism at individual levels using an objective standard. To do that, post manipulation, we elicited responses on a scale of 0% – 100%, asking participants of the optimism and pessimism group how likely they thought their die was going to roll 1 and 6 respectively. We considered participants to be optimistic and pessimistic when they rated the likelihood of getting 1 and 6 as higher than 16.67% (rounded off to 17% in the study). This was because the die provided to the optimism and pessimism group was actually unbiased making the objective probability of getting any one of the 6 outcomes of the die 1/6 or 16.67%.

Manipulation checks: We asked the participants of the optimism and pessimism group two questions. First, we asked

participants if they trusted the manipulation statement that their die was biased. We devised this question based on our first pilot experiment where we found that quite a few participants did not trust the manipulation statement. We tested this manipulation check question during our second pilot experiment and found that it was effective in weeding out participants who did not trust the manipulation statement. Second, we asked participants to respond to the question: "How much did the information on the biased die influence your insurance decision?". Participants responded on a 5-point Likert scale of "Not at all influential" to "Extremely influential". We added this question to help us identify the extent to which the manipulation statement influenced their decision. Accordingly, we intended to drop the response if the participant had answered: "Not at all influential".

Control variables: As measures of control, we captured participants' financial literacy using the "Big Three" questions from Lusardi & Mitchell [36]; numeracy using the scale of Lipkus et al [37], and risk aversion using the non-incentivized risk question from Dohmen et al [38].

Demographics: We collected demographic information like age, gender, and educational background.

3 RESULTS

3.1 Preliminary analysis

We screened our data for missing responses and subsequently filtered the responses of the optimism and pessimism group using the two manipulation checks. First, we filtered out all the participants who responded negatively to the question, "Did you trust the information that your die is biased?" In the process, 5 responses were dropped. Next, we screened participants based on their response to the question, "How much did the information on the biased die influence your insurance decision?".

Finally, we also filtered out 3 participants (1 from the optimism group and 2 from the pessimism group) who stated the likelihood of their die roll outcome to be 17. We filtered them out because the likelihood scores indicated that these participants believed their die to be unbiased. Consequently, it means that these participants would have made insurance decisions without being unrealistically optimistic or pessimistic as the case may be.

In all, we dropped 8 responses and ended up with a final sample size of 117. Table 2 shows the breakup of how the manipulation checks were used to drop responses across our three experimental groups. The final sample across the three groups was as follows: 34 were in the optimism group, 41 were in the pessimism group, and 42 were in the control group.

3.2 Main analysis

3.2.1 Checking for successful manipulation of unrealistic optimism and pessimism:

To assess whether we have successfully manipulated unrealistic optimism and pessimism, we performed a single sample Wilcoxon signed-rank test on the die roll likelihood scores given by the optimism and pessimism participants, setting the expected median score as 17. We performed non-parametric analysis here because the likelihood scores were non-normally distributed. Results showed that we had successfully manipulated the levels of unrealistic optimism.

Table 2: Breakup of how responses across three groups were dropped using manipulation checks

Filter questions	**Optimism (40)**	**Control (42)**	**Pessimism (43)**
Did you trust the information that your die is biased?	5	0	0
How much did the information on the biased die influence your insurance decision?	0	0	0
How likely do you think it is that your die will roll to give the number 1 (6)?	1	0	2
Final sample considered	34	42	41

(M = 67.73, SD = 24.01, $p < 0.001$) and pessimism (M = 74.56, SD = 22.98, $p < 0.001$) in the participants.

3.2.2 Impact of unrealistic optimism and pessimism on insurance purchase decision:

Fig 2 shows the average insurance coverage levels selected by the participants from the three groups. Data revealed that the difference in insurance coverage levels across the three groups was both economically and statistically significant. On average, participants in the optimism group purchased insurance worth INR 45.2, participants in the control group purchased insurance worth INR 81.4, and those in the pessimism group purchased insurance worth INR 90.2 (see Table 3).

To test the hypothesis (H1) that participants in the optimism group have taken lesser insurance compared to participants in the control group, we performed a Wilcoxon Rank Sum test. We selected a non-parametric method for the analysis because our dependent variable (insurance demanded) was ordinal in nature [39]. Analysis showed that evidence supported our hypothesis on optimism bias ($|z| = -4.421$, $p < 0.001$, Effect size $r = -0.504$). We also got strong evidence in support of our hypothesis (H2) that participants in the pessimism group will purchase more insurance compared to the control group ($|z| = -1.834$, $p = 0.033$, Effect size $r = -0.200$).

Table 3: Summary statistics of the insurance coverage levels selected by participants of the three groups

	Optimism	Control	Pessimism
Mean	45.29	81.39	90.24
Median	40.00	80.00	100.00
Sd	33.86	21.99	14.91

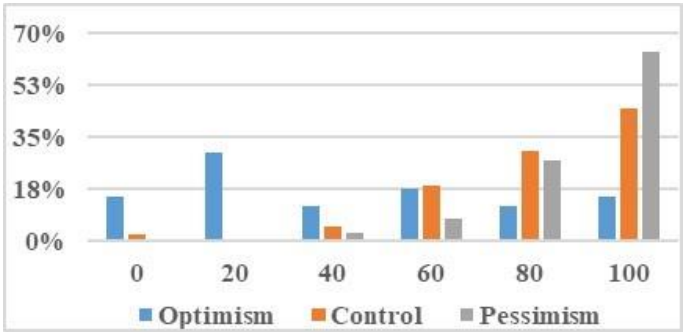

Fig. 2: Percentage of the three experimental groups selecting insurance of different coverage levels in round 1 of the insurance game

3.2.3 *Effect of past experiences on unrealistic optimism, unrealistic pessimism, and subsequent insurance decision*

To test our hypotheses H3 and H4, we performed a Wilcoxon matched-pairs signed-rank test. In this, we first compared the round 1 die roll likelihood scores given by optimists and pessimists with their round 2 scores (see Table 4 for mean and standard deviation values of the likelihood scores). Our idea behind performing this analysis was to see if the optimism and pessimism levels of participants reduced when they saw die roll results contrary to their optimistic and pessimistic expectations. The results show that there was a significant reduction in the scores given by both optimists ($|z| = 3.098$, $p < 0.001$, Effect size $r = 0.376$) and pessimists ($|z| = 2.173$, $p = 0.015$, Effect size $r = 0.240$) across the two rounds.

Table 4: Mean and Standard deviation values* for the likelihood scores

	Round 1	Round 2
Optimism	67.73 (24.01)	59.88 (26.93)
Pessimism	74.56 (22.98)	70.85 (21.82)

*Standard deviation scores in parenthesis

We then compared the insurance decision made by optimistic and pessimistic participants across the two rounds to see if the difference in the insurance coverage levels selected by them was statistically significant (see Table 5 for insurance coverage levels selected by participants across both rounds).

We got strong evidence in support of the hypothesis (H3) that optimistic participants will revise their decision and purchase more insurance on experiencing events contrary to their optimistic expectations ($|z| = 1.979$, $p = 0.024$, Effect size $r = -0.240$). Likewise, we got strong support for the hypothesis (H4) that pessimistic participants will revise their decisions and purchase less insurance after experiencing events contrary to their pessimistic expectations ($|z| = 1.822$, $p = 0.034$, Effect size $r = 0.201$).

Table 5: Percentage of insurance coverage levels selected by optimists and pessimists in each of the two rounds of the insurance decision game

Insurance coverage levels	Optimism		Pessimism	
	Round 1	Round 2	Round 1	Round 2
INR 0	15%	12%	0%	0%
INR 20	29%	6%	0%	0%
INR 40	12%	15%	2%	2%
INR 60	18%	26%	7%	22%
INR 80	12%	15%	27%	34%
INR 100	15%	26%	63%	41%

4 Discussion

In this study, we conducted an online experiment wherein participants played an insurance decision game pertaining to a gamble. Our aim was to test the hypothesis that unrealistic optimism can make individuals less cautious and lead to underinsurance while unrealistic pessimism can lead to over precautionary behavior and make people overinsure. We also tested for the hypothesis that when unrealistically optimistic individuals experience events contrary to their optimistic expectations, their levels of unrealistic optimism will reduce leading to higher insurance purchase subsequently. Likewise, when unrealistically pessimistic individuals experience events contrary to their pessimistic expectations their levels of unrealistic pessimism will reduce leading to higher insurance purchase subsequently.

The results of our study supported our hypothesis that optimists will underestimate the likelihood of negative events and hence will not purchase insurance or purchase lesser insurance compared to the control group. This was is in line with existing studies that used cross-sectional designs to show a positive correlation between optimism bias and risky behavior [40], [41], [42], [43]. Concerning unrealistic pessimism, our study showed that individuals who are pessimistically biased overestimate the likelihood of negative events and hence purchase more insurance compared to the control group. This result is consistent with the predictions of [16], [23] and evidence generated by [17].

Our results also supported the hypothesis that, when optimists and pessimists experience events contrary to their expec-

tations, their levels of unrealistic optimism and pessimism reduce in their subsequent decisions. The optimists in our study purchased a significantly higher amount of insurance in the second round compared to the first round in response to incurring a loss of INR 100. Likewise, the pessimists purchased a significantly lesser amount of insurance in the second round when they incurred a loss of INR 0 in the first round. These results are in line with the evidence generated by [44].

The findings of our study must be viewed in the light of the fact that one main reason why unrealistic optimism and pessimism are so important is because of the possibility that they can lead to undesirable behavior. Theories of health behavior like the Precaution Adoption model and the Health belief model, argue that for individuals to engage in precautionary behavior, they must first perceive the risk as a threat [45], [46]. However, when people perceive their risks to be small or perceive it to be high, they are less likely to take precautions [47], [48] or may end up taking extreme levels of precautions respectively [16]. Our results suggest that when people are optimistically biased, they are less likely to engage in precautionary health behavior like undergoing screening tests [49] and showing intentions to quit smoking [41], and more likely to engage in risky behavior like unprotected sex [50] or high-risk road driving [51]. Likewise, when individuals are pessimistically biased, they may engage in extreme levels of precaution like excessive cancer screening [52] and excessive use of health care services [17].

Our findings on the impact of past experiences highlight a possible way in which the negative consequences of unrealistic optimism and pessimism can be tackled. Researchers argue that to combat the effect of unrealistic optimism and pessimism, the risk perception levels of a person need to be increased [14] and decreased [15] respectively so that it is closer to what the reality is. Our results suggest that this can be possibly achieved by using interventions like emotionally charged anecdotes that make salient both the risk associated with an event and the consequences of it [53]. The reason why past experiences may have a strong impact in correcting risk perceptions is that they are both emotionally vivid and unexpected [44].

To the best of our knowledge, the present study is the first to experimentally investigate the consequences of unrealistic optimism and pessimism. However, it has a few limitations. First, our sample consists of students who exhibit high levels of financial literacy relative to what can be expected of the general population. Therefore, there is the concern of results not being generalizable to the larger population. However, theoretically speaking, higher levels of financial literacy work in the favour of this study. This is because we hypothesized that unrealistic optimism and pessimism should result in individuals not making a better insurance decision whereas evidence from the literature shows that individuals with higher financial literacy are more likely to make better financial decisions. This means our study would be underestimating the impact of unrealistic optimism and pessimism to that extent. Second, the manipulation used in our study induces extreme levels of unrealistic optimism and pessimism and hence may not be an accurate representation of the levels of unrealistic optimism and pessimism that prevails in the real world. While there was an array of 6 possible losses that we could have chosen from, for the sake of simplicity and achieving strong manipulation, we chose to induce the maximum possible level of optimism and pessimism in the participants by telling them they are more likely to incur a loss of INR 0 and INR 100 respectively. To that extent, the results of our study may be overestimating the impact of unrealistic optimism and pessimism.

5 Conclusion

In this paper, we used experiments to establish a causal relationship between unrealistic optimism, unrealistic pessimism, and the negative consequences it has for individual behavior. We also used expeirments to highlight that, interventions having an effect similar to personal past experiences may have a potential mitigatory impact on the effects of unrealistic optimism and pessimism.

Notes

1. Initially, to manipulate the levels of unrealistic optimism and pessimism we systematically searched the literature for papers that have achieved successful manipulation in an experimental setting. We used the keywords taken from Shepperd et al (2013) and searched Scopus and Web of Science databases. Our search results revealed that one paper had successfully manipulated unrealistic optimism and pessimism using Mindset manipulation (Keller & Gollwitzer, 2017). We then corresponded with the lead author to borrow their manipulation materials and used the methods described in their paper to vary the levels of unrealistic optimism and pessimism in our setting. However, our pilot experiment and post-pilot interviews revealed that the proposed technique was not successful in our setting.[3] Specifically, we found that our participants had difficulty in understanding the manipulation check questions used in the original paper, participants' levels of unrealistic optimism and pessimism did not vary in line with the reported findings and, the effect of manipulation was not spilling over into the insurance decision making task we set for participants. This led us to unsuccessfully search for alternative methods to vary the levels of unrealistic optimism and pessimism. Finally, realizing the lack of research on this front, we decided to devise our own manipulation drawing inspiration from Hetts et al (2000).

2. To add more robustness to our analysis, we performed a multivariate ordered probit estimation. We set as dependent variable the insurance coverage level selected by the subjects and coded the experimental groups as Optimism dummy and Pessimism dummy. The control group was our base. Results of our probit analysis revealed that keeping other variables constant, being in the optimism group reduced the probability of having higher insurance coverage (significant at 1% level), and being in the pessimism group increased the probability of having higher coverage (significant at 5% level). These results

[3] We tested the mindset manipulation technique in a game design that is different from the version used in this study.

were robust and significant even after the inclusion of control variables.

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Authors declare that they have no conflict of interest

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